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ABSTRACT

This paper examines issues in identifying visually gifted children, including artistic talent and its relationship to visual giftedness; the contexts in which visual giftedness represents a specific type of intelligence; the ability of classroom teachers to identify the visually gifted; resources that may help classroom teachers identify the visually gifted; and the characteristics of visually gifted children that can be observed in their drawings. (Contains 18 references.) (JLB)

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Issues in Identifying Visually Gifted Young Children

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Issues in Identifying Visually Gifted Young Children

Barbara Fredette

VISUAL LITERACY IN THE DIGITAL AGE is the title given to the conference at which this paper was presented. To make a connection between this generic focus and ISSUES IN IDENTIFYING VISUALLY GIFTED YOUNG CHILDREN takes some stretch--one which I would like to attempt through analogy.

In his book, *The Reconfigured Eye*, William Mitchell (1992) describes the evolution of the production of imagery through three critical phases. The evolution is from painting through photography to digital imagery. "Although a digital image may look just like a photograph when it is published in a newspaper, it actually differs as profoundly from a traditional photograph as does a photograph from a painting. The difference is grounded in fundamental physical characteristics that have logical and cultural consequences" (p.3). Are children's drawings most like paintings; naive artistic expressions, are they like photographs; an attempt to represent a realistic window on the world, or are they most like digital images; combines of imagery from internal and external sources? The stance taken in identifying in which of these niches the visual expressions of children belong also has potent consequences-consequences which affect the identification of children who have exceptional ability in this area.

This paper is organized around a set of identification issues addressed as questions. These questions serve as the search mechanism which drives the study at this point in time. The purpose of this study is to examine issues engendered by the construct of "visual giftedness" in order to select a focus for further research.

1. Is artistic talent synonymous with visual giftedness?

I have found that when teachers are asked if they know any young children who are visually gifted they make an immediate connection to performance in art class or art related activities. A computer search of library holdings under the keyword visual giftedness revealed the same connectedness between the two

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terms--the research studies identified through the term were of artistic giftedness. A search through subject indexes in shelves full of books on Giftedness in Children produced no uses of the term visual giftedness. It appears that visual giftedness is not a term that is used in identifying or describing exceptional capabilities in young children. In defending the importance of art (as visual thinking) in the learning experience of young children visual thinking authority McKim (1972) makes the same union; that is that the visual thinking of young children is in art activity. However he seems to differentiate between the two to some extent when he concludes his defense by writing, "Although visual abilities are not democratically endowed, differences in inherited aptitude do not afford a rationale to deny visual education. Whatever the inheritance the unrealized potential for visual development is great" (p. 24). The overwhelming evidence implies that the search for exceptionality of the visual mode of thinking in young children is tied to artistic talent.

What is artistic talent?

The 1972 Marland report to Congress on the Education of the Gifted and Talented was used in the Gifted and Talented Children's Education Act of 1978 as part of Public Law 95-561. This public law identified visual and performing arts as one of five categories of giftedness. However neither the report nor the law provided an operational definition of talent in the visual arts (Clark and Zimmerman, 1983). In his 1980 effort to describe artistic development Gardner gave a very general, not operational, definition when he wrote, "...any inquiry in art, and especially one concerned with the sources of artistic accomplishment, must necessarily confront the issue of talent--the status of those individuals who, owing to nature, nurture, or some indissoluble blend, possess special gifts" (p. 17). Later in the same text Gardner gets a little more specific about what talent might be when he describes the activity of the young child as "his preconscious sense of form, his willingness to explore and to solve problems that arise, his capacity to take risks, his affective needs which must be worked out in a symbolic realm--that we find the crucial seeds of the greatest artistic achievements" (p. 269). To the extent that some children might exhibit more of these abilities/attributes than others they might be identified as artistically talented.

Another source for operationally defining talent may be found in the study of prodigies. Developmental psychologist Feldman (1986) has studied prodigies. He tells us that "Prodigies are more likely to appear if the knowledge base of the domain is highly organized formally and highly concentrated symbolically. Music, chess, and mathematics share this feature while visual art does not" (pp. 87-88).

It has been suggested that one of the reasons for this is that young children do not have the physical development (eye-hand coordination) necessary for the production of art. However this argument is contradicted by the fact that young children can play the violin and piano. Feldman (1986) offers another explanation by stating that "the technology and techniques for composition and performance are more organized and accessible to the young musician. There are also clearer criteria for excellent performance " (p. 84). This may be why

early precocity in art is generally not represented in the research literature. Precocious development in graphic forms of artistic expression is not considered to be a sign of giftedness until it reaches the symbolic stage which offers pictorial representations of the environment. Even then there is limited consensus on criteria for standards of excellence in the visual arts. This makes judging the products of young children's graphic performance on the basis of representing exceptional artistic achievement rather difficult.

The problems of identifying precocious artistic expression could be avoided by calling children's graphic expressions (drawings) visual thinking rather than artistic thinking. Goodnow (1977) refers to childrens graphic work as "visible thinking". She suggests that the features it represents are generic features of problem solving. To call the problems they are solving artistic problems may be assigning an untoward limitation on that mode of thinking.

What problems, if any, may accrue from calling the visual expression of children 'art' rather than visual thinking? Children's writings and childrens drawings represent two complementary cognitive efforts using two different forms of information and, possibly, different modes of mental activity. We accept their writing as an exploration of verbal language--we do not call these efforts literature. However most explorations using graphic media are labeled art. This label carries heavy cultural connotations which in turn may influence perception of the products called art. It may be useful to put aside the label 'art' and identify drawings as drawings--not art. This is not a vapid exercise in semantics--it is an attempt to free and to focus. To free the review of the graphic products of children from domination by adult held connotations of art and to focus on these drawings as representations of developmentally appropriate or developmentally exceptional visual thinking.

In examining children's drawings which represent these developmental stages it is also possible to look for exemplary uses of the visual mode of thinking. Children's development in graphic expression, drawing, represents development in visual thinking--an effort toward visual literacy. Drawings may be manifestations of a variety of related capabilities within the visual thinking mode. Using as an heuristic notion the paradigm of age related developmental stages in drawing achievement it is possible to identify those children whose efforts are prodigious, far beyond the expectations set by the stages.

2. In what contexts may this ability--visual giftedness--emerge?

Opportunities to express visual abilities may occur wherever and whenever young children have the chance to express their ideas in visual form. Such opportunity is requisite to the identification of children who may hold this ability (or set of abilities) at an exceptional level. It is generally expected that more opportunity is available in art class than in the general academic classroom .

This is not always the case for several reasons. Art teachers have limited time with students, especially at the primary level. In many schools where there are art teachers, the art teacher meets each class once a week for less than an hour. Elementary art teachers are frequently itinerant and teach in several schools. In

the course of a week they may see several hundred students. In spite of these problems experienced art teachers may recognize exceptional ability in young children but can do little about it because of the need to follow a specified curriculum.

In contrast to these conditions the classroom teacher has more flexibility of time and more opportunity to recognize individual differences in abilities among the students in her class whom she will see every day for the year. In those classrooms where children are expected to express a wide variety of ideas in any of the symbol systems of our culture, those who consistently select to do it in a visual mode may be recognized. Besides the frequency of efforts the products of these efforts may also be observed, by a visually sensitive viewer, to demonstrate an exceptional visual memory and skill of creative visual problem solving.

However in classrooms where rule driven activity is the major mode of expressive opportunity, exceptional visual ability is less likely to be observed. It may even be counterproductive for the children who have it. An example of this problem was observed in a first grade math class. The teacher was showing the children a picture of several rabbits in a garden setting. She asked how many bunnies there were in the garden. Several children came up and counted them, arriving at the correct answer. Michael did not. He said there were nine bunnies, not seven, because he knew two were hiding behind the fence. The teacher was very upset with Michael and reprimanded him for trying to be a 'smart aleck'. He was very upset when he arrived home and told his mother what had happened. He even drew a picture, replicating the one the teacher had shown the class. In his picture he showed (x-ray style) where the two rabbits were hidden. By October Michael knew--he had learned--that he was not to read pictures imaginatively. Reading pictures imaginatively by adding to or elaborating on what is represented is a visual thinking skill which should be encouraged in appropriate contexts.

Exceptional visual abilities may be exhibited both in children's own visual productions as well as in their response to images found in pictures and in the visual environment. Although their skills with language are not highly developed some young children show a surprising ability to recognize patterns, to see and make (concrete) analogies . Given opportunities to talk about pictures and adults who are open to seeing through the eyes of a child it is possible to recognize when this ability is present to a high degree. Teachers need to understand the importance of visual thinking skills as life skills. They need to be aware of what behaviors and what characteristics of children's products represent this type of thinking so that in turn they may acknowledge and encourage through appropriate activity those children who exhibit exceptional abilities in it.

3. To what extent does visual giftedness represent a specific type of intelligence?

Gardner (1993) tells us that "In a traditional view, intelligence is defined operationally as the ability to answer items on tests of intelligence " (p. 15). The notion that a measure of the degree of general intelligence held by students would be a good indicator of their success in school has been with us since Binet developed his test in 1900. The test, or subsequent variations of it, provides an

intelligence quotient or IQ. "Much evidence contradicts the existence of a relation between intelligence test scores in their upper ranges and giftedness (Sternberg and Davidson, 1985. p. 102).

Getzels and Csikszentmihalyi found that artistically talented college students did not differ significantly from typical college students in intelligence but that they would be at least in the upper third of their age group. In their study Getzels and Csikszentmihalyi found that the ability to identify good artistic problems was a better indicator of exceptional artistic ability than IQ. Sternberg and Davidson (1985) cite a study of young children in which it was found that "accuracy in representing real objects artistically is not correlated with general intelligence" (p.64).

Sternberg and Davidson (1985) sum up the findings of developmental theorists (J. Bamberger, D. Feldman, H. Gardner and H. Gruber) who have looked specifically at the gifted by saying that they "... seem to agree upon the importance of both individual talent and the context in which it develops. They believe in the domain-specificity of talent and, hence, do not see giftedness as having much to do with exceptionally high levels of IQ or any other single personal characteristic. Moreover, they tend to emphasize the systematic nature of the development of giftedness, with only part of the system emanating from the individual. For these theorists, "giftedness cannot be understood solely as a cognitive trait, but rather must be understood as a complex interaction between the individual and a peculiarly supportive environment that the individual helps create, but over which the individual has only limited power" (pp 57-58).

In contrast to the notion of a GI or general intelligence, Howard Gardner (1983, 1993) has created a theory of "multiple intelligences". This research effort was engaged in response to what he considers to be two major erroneous assumptions about human cognation; one, that cognition is essentially unitary and two, that "individuals can be adequately described and evaluated along a single dimension called 'intelligence'" (1991, p. 80). His research led him to identify seven different intelligences. In order to qualify as an intelligence in his theory the human capacity being considered had to "feature a clear-cut developmental trajectory, be observable in isolated forms in populations like prodigies or autistic youngsters, and exhibit at least some evidence of localization in the brain" (pp.80-81).

Spatial intelligence is one of the seven intelligences in Gardner's theory of MI (multiple intelligences). In *Frames of Mind* (1983) Gardner writes that "central to spatial intelligence are the capacities to perceive the visual world accurately, to perform transformations and modifications upon one's initial perceptions, and to be able to recreate aspects of one's visual experience, even in the absence of relevant physical stimuli" (p. 173). Gardner describes spatial intelligence as "the ability to form a mental model of a spatial world and to be able to maneuver and operate using that model. Sailors, engineers, surgeons, sculptors, and painters...all have a highly developed spatial intelligence" (1993, p. 8). All of these domains employ spatial problem solving. After infancy each of the intelligences is encountered developmentally through a symbol system. Children display their abilities in the various intelligences through their

understanding and use of the various symbol systems. "The spatial intelligence passes from the mental maps of the infant, to the symbolic operations required in drawings" (p.28).

When Gardner addresses the question as to whether there is a separate artistic intelligence he refers to earlier work and writes " according to my analysis, there is not (1993, p. 138)". "Technically, however, no intelligence is inherently artistic or nonartistic. rather, intelligences function artistically...to the extent that they exploit certain properties of a symbol system...the same "spatial" intelligence may be exploited aesthetically by a sculptor, nonartiscally by a geometer or surgeon....Whether an intelligence is used artistically is a decision made by the individual and/or by the culture"(p. 46). Whether such a decision is made by the individual or the culture it is no doubt based on a consensus of what it means to be artistic. This consensual understanding comes about as a result of formal education. However the earliest manifestations of spatial intelligence may be found in the drawings of young children prior to formal instruction in the visual arts. It is my thinking that these drawings may represent exceptional facility with this type of intelligence without being assigned the 'baggage' of the label 'artistic'.

4. Can classroom teachers identify the visually gifted or is it up to art teachers alone?

Is it possible for people who have limited expertise in visual arenas to be able to recognize the visual skills that may be demonstrated in children's drawings? Two aspects of the behavior of classroom teachers are particularly relevant to this issue. One is the opportunities they provide for the students to exhibit visual as well as other skills and abilities and the second is the expectations they have in response to childrens' performance within these opportunities.

The expectations of teachers have a great deal of influence over the childrens' abilities which will be revealed in their classrooms. As mentioned before opportunities to express visual thinking must be available. The teachers who provide these opportunities must be able to interpret the results appropriately. What do teachers expect of pictorial representations, and do they assign this expectation even when the pictures are drawings made by children? Problems of adult standards in projection and interpretation may interfere. Teachers must operationalize, through sensitive acknowledgement, their understanding that a children's drawings are "windows on the mind" and not "windows on the world".

Classroom teachers may provide opportunities and they may recognize at least the child's exceptional ability to draw representationally, but they may not value it in comparison to academic performance. This is where the recognition of spatial ability as an intelligence worth nurturing should be brought to their attention.
The purpose of identifying the visually gifted during the primary years is to reinforce this type of behavior before the student's transition to years when peer influences and other factors may serve to diminish it.

Art teachers as identifiers

To the extent that art teachers recognize the intellectual efforts represented through children's drawings, they will be able to identify those children who have exceptional ability. Product technique-oriented teachers may not do as well. Gardner (1993) suggests that the arts must be taught by people with a "deep knowledge of how to 'think' in an artistic medium...education in the visual arts must occur at the hand--and through the eyes--of an individual who can "think visually or spatially". Note that he does not write "think artistically" but instead refers to the 'generic' thinking skills used in producing art forms. Art teachers who themselves are adept at visual thinking and who have strong understanding of children's development in graphic expression may be able to identify the visually gifted in the primary grades. Again it must be acknowledged that this is a critical time for this identification.

5. What resources might help classroom teachers recognize the visually gifted?

The initial identification of the visually gifted cannot be left up to art teachers for reasons which have been mentioned before. Classroom teachers should be considered the first level of the identification process. They see the same children every day and have a clearer notion of the personality attributes which may be manifested visually by these children.

The education of classroom teachers must help them to be familiar with the mode of visual-spatial thinking and how it is revealed in children' drawings. In an Arts in the Elementary School course taught at the University of Pittsburgh to elementary certification students developmental aspects are focused upon through several activities which call attention to children's drawings. Much of the activity is based on Lowenfeld's theory of children's development in graphic expression. The instructors believe that a theory of childrens graphic development is an essential grounding for the ability to recognize the appropriateness of the various forms of the symbols children create at different stages.

These students have an opportunity to review and make a personal response to an article called "The Colorbook Craze". It reveals to them the negative influences of coloring- in activities. Activities which take away the child's own opportunity to develop visual symbols for his individual expression of ideas.

The students see and discuss a scripted slide presentation of one child's development in graphic expression. This is a case study approach following one child from age 3 to 11 with several digressions. A set of drawings from mentally retarded adults demonstrates the cognitive basis of the drawing effort. A kindergarten's illustrated memories of a field trip shows the results of a teaching strategy that encourages the active construction of knowledge and its probable carry-over into long-term memory.

These pre-service certification students are asked to collect a set of drawings from the classroom to which they are assigned for the term. In class using a sample set of drawings the instructors demonstrate how to identify developmental qualities and analyze them in terms of Lowenfeld's stages. They also provide the students with a page of drawings of people which concretely

exemplify the evolution of the symbol for a person from "tadpole" figures to naturalistically proportioned representations.In small groups they analyze one of the sets they have collected by sorting it into developmental levels based on the visual characteristics of the drawings. The instructors and peers assess this analysis, giving feedback and recommendations for change where necessary. Each student then writes a one page analysis of the developmental levels exhibited in the set of drawings which s/he has collected.

The instructors believe that these activities provide an appropriate preparation for apprentice level recognition of children's development in graphic expression. As certified teachers, they must be able to recognize what may be generally expected of children and use these criteria as a basis for identifying those who exhibit exceptional behavior in that area. "We need to educate or reeducate teachers so that they can recognize in childrens' visual products the work of a high level intellect. We need more teachers who can use visual products as assessment tools and who recognize in the visual products of students evidence of high level thinking products" (Fredette & Hunter, 1993, p. 404).

In order to do this, developmentally appropriate dimensions for the identification of young visually gifted must be identified. A set of characteristics observable in children's drawings must be developed and classroom teachers trained to use it. In order to move toward this goal, this author has begun to look at the following sources for specific characteristics of drawings for an efficient, effective index that may be used to identify visually gifted students.

6. What characteristics of young visually gifted may be observed in their drawings?

Clark and Zimmerman (1983) provide a detailed review of 70 years of identifying students with exceptional abilities in the visual arts. After they reviewed all of the relevant studies of the identification of the artistically gifted Clark and Zimmerman (1983) submitted that one of the questions which remains is how early can artistic talent be identified?

This author's concern is for identifying visually gifted at an early age. Perhaps what becomes visual art talent is first seen as exceptional ability to express ideas through drawing. Drawing is a cognitive or intellectual act as well as a physical skill and an emotional expressive outlet. " The ability to construct and act upon mental representations is regarded as the most fundamental property of human cognition" (Kauffmann cited in Hubbard, 1989, p. 5). These actions refer to the symbolic strategies which children use and represent in their drawings. What do they look like? And is it possible to develop a set of observable characteristics into a system of attributes which classroom teachers may be able to recognize?

Wilson and Wilson (1982) identified a number of characteristics of artistically gifted children. Several of the abilities they have identified have strong overtones of visual thinking competency. The first and most important characteristic is that the child frequently and persistently uses drawing to give visual form to ideas. Others include:

*ability to depict accurately and competently beyond that of peers.

*unusual visual memory enabling them to remember in "vivid and accurate detail" pictures and environmental objects and events in their environment.

*use of active imagination through fluent combinations of what they have known and seen by synthesizing into new forms.

*extraordinary ability to solve graphic problems by representing different points of view, different spatial orientations.

*personal agenda of skill which may be seen as ideas developed through pages of variations.

*early self-motivated ability to mimic styles, contents and techniques of adult artists.

As mentioned before, all of these characteristics appear within a developmental construct which serves to ground the identification of exceptionality. It appears that the identification should be made by examining many work samples that naturally evolve in ongoing classroom activities rather than from responses to test situations (assigned topics for drawing).

To the extent that drawings are symbolic manifestations of children's thinking strategies they may also represent the active construction of their knowledge. Several areas in which this may be most evident have been identified by Hubbard (1989) in her ethnographic study of visual and verbal literacy development in a first grade. Giving visual form to these concepts and doing it in an exceptional manner may provide another set of filters by which children's drawings can be examined for outstanding attributes of visual thinking ability.

TIME depictions: do some children make an effort to represent time events in their drawings?

SPACE depictions: size differences to indicate 3D space, transparency or x-ray, overlapping mixed perspectives as exploration, bird's eye view and elevations.

MOVEMENT depictions: multiple images, frozen moment, action lines, pop-ups, pictorial metaphor (adding legs or arms to objects to represent ability to move (Friedman & Stevenson, cited in Hubbard (1989).

COLOR as light: depiction of shadow, of other light effects, sparkleused in accurate depiction of detail.

COLOR as mood: cultural or symbolic representations (Hubbard, 1989,p. 138).

These two sets of characteristics will be used to identify areas of representation through which young children's visual thinking may be recognized and ranked in terms of exceptionality compared to peers or to developmental expectations.

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